

THE DIPTEROUS GENUS SYMPYCNUM LOEW IN
NORTH AMERICA AND THE WEST INDIES

BY M. C. VAN DUZEE

Buffalo, New York

The described species of *Sympycnum* and its subgenus *Calyxochætus* are distributed over the whole world. Including those described in this paper, 156 species have been recognized. These are distributed about as follows: European 12; Oriental, including most of Asia, 32; North America 24 and 12 species of the subgenus *Calyxochætus*; Central America 10 and 2 species of *Calyxochætus*; South America 47 and 2 species of *Calyxochætus*; Africa 9 and one species of *Calyxochætus*; Australia and New Zealand 6 species. In South America, below the 38 degrees south latitude, nearly half of the known species of the Dolichopodidæ belong to this genus; this is probably partly due to ecological conditions in the regions where most of the collecting has been done.

The genus *Sympycnum* was established by Dr. Hermann Loew in 1857, *Neue Beitr.*, v, p. 42, for five species; generic type designation by Coquillett in 1910, *Porphyrops annulipes* Meigen (*Proc. U. S. Nat. Mus.*, Vol. xxxvii, p. 610). The genus *Calyxochætus* was erected by J. Bigot in 1888, *Ann. Soc. Ent., France*, Ser. 6, viii, *Bulletin* p. xxiv, 1888, and *Ann. Soc. Ent., France*, Ser. 6, x, p. 282, 1890, with type *Sympycnum nodatus* Loew.

Synonyms: *Nothosympycnum* Wheeler, *Proc. Calif. Acad. Sci.*, Ser. 3, Zoöl., Vol. ii, pp. 47, 51, 1899, type *Sympycnum nodatus* Loew; *Gymnoceromyia* Bigot, *Ann. Soc. Ent., France*, Ser. 6, x, pp. 276, 293, 1890, type of genus and only species *Gymnoceromyia andicola* Bigot.

As *Nothosympycnum* includes the type species of *Calyxochætus*, there can be no question as to its being synonymous; *Gymnoceromyia* has been considered a synonym of *Psilopus*, but lately I described a species as a *Sympycnum* (*Calyxochætus*) from Chile, but when the type was returned to the British Museum Mr. Edwards and Mr. Collin compared it with the type of *Gymnoceromyia andicola* Bigot and found them the same. As it is a true *Calyxochætus*, we must place *Gymnoceromyia* also as a synonym of *Calyxochætus*. This subgenus

is separated only by having the first joint of fore tarsi shorter than fifth, and not or but little longer than wide, but it is shortened in the male only; the male also has the tip of the arista enlarged in some species, but as we have a South American species with three enlargements on the arista and the first joint of the fore tarsi longer than the second, it seems necessary to make this a subgenus if we can give it even that rank.

The genus *Sympycnus* is characterized as follows: Face narrow or somewhat narrowed in the male, wider in female, usually a little wider above; first antennal joint bare above, third joint usually small, triangular, pointed at tip with the arista inserted near the base on upper edge; legs and feet slender, tibiae with rather small bristles, sometimes almost without bristles; pulvilli often enlarged in the male; abdomen elongated, cylindrical, somewhat compressed in the male, tapering to a point in the female; hypopygium of male more or less embedded, small, its appendages usually small, triangular or rod-like; dorsum of thorax with a more or less distinct flattened area on posterior slope, before the scutellum; acrostichal bristles usually in a single row, rarely biserial or even wanting; abdomen with six segments in the male, sixth small and usually not visible on the venter; female with five visible segments; wings rather long and narrow, sometimes much narrowed at base in male, usually wider in the female with the anal angle more prominent; posterior cross vein at or a little before the middle of the wing; third and fourth veins parallel toward their tips, sometimes parallel from the cross vein, but usually the last section of fourth vein is more or less bent at or before its middle, fourth vein ending in or a little before the apex of the wing; sixth vein not reaching the wing margin, sometimes represented by a slight fold in the wing.

Some species vary considerably from the characters given above. Several have the third antennal joint large or the arista inserted near the middle of upper edge; in a few the abdomen is shorter and formed more as in the *Chrysotus* and in several the hypopygial appendages of the male are very long and narrow, nearly as long as the abdomen.

I am greatly indebted to Dr. J. M. Aldrich for the loan of material from the United States National Museum, from which several species new to me are described.

KEY TO THE MALES OF THE NORTH AMERICAN SPECIES OF *SYMPYCNUM*, INCLUDING MEXICO AND THE WEST INDIES

1. Species with all tarsi plain, except sometimes in color or with
a few longer hairs on last joint..... 2

- Species with one or more pairs of tarsi modified, or with unusual hairs or bristles, sometimes only the last joint a little widened.....13
- 2. Antennæ wholly black or brown, sometimes first joint a little yellow below 3
- Antennæ yellow or brownish yellow, at least first joint yellow 8
- 3. Fore coxæ black with yellow tips (California; Alaska).....
.....*cuprinus* Wheeler
- Fore coxæ wholly, or almost wholly yellow..... 4
- 4. Dorsum of thorax with a broad, median, violet stripe (Ontario; New York)*canadensis* Van Duzee
- Thorax without such a stripe..... 5
- 5. Middle and hind coxæ black with yellow tips; first and second joints of hind tarsi of nearly equal length (Mexico).....
.....*varipes* Aldrich
- All coxæ wholly yellow; first joint of hind tarsi shorter than second 6
- 6. Dorsum of thorax with distinct lines; third antennal joint twice as long as wide (Eastern States to Kansas).....
.....*lineatus* Loew
- Dorsum of thorax without lines; third antennal joint short, not longer than wide..... 7
- 7. Dorsum of thorax dull; third antennal joint as long as wide; hypopygial lamellæ short and stout; abdomen rather short (California; Washington)*breviventris* new species
- Dorsum of thorax bright shining green; third antennal joint short; hypopygial lamellæ long and narrow; abdomen long as usual (St. Vincent, W. I.).....*thoracicus* new species
- 8. Basal half of first joint of hind tarsi white, apical half black; hind tibiæ enlarged at tip, which is sharply black (Colorado; New Mexico; Arizona).....*clavatus* Van Duzee
- Hind tarsi not black and white; hind tibiæ scarcely enlarged at tip, which is sometimes a little brown..... 9
- 9. Humeri yellow (Mexico).....*angustipennis* Aldrich
- Humeri metallic or brown, sometimes a little yellow below.....10
- 10. Hind tarsi with first joint only a little shorter than second (California).....*lævigatus* new species
- First joint of hind tarsi much shorter than second.....11
- 11. Face golden yellow (Alaska).....*aurifacies* Van Duzee
- Face not yellow, usually white.....12
- 12. Dorsum of thorax with distinct lines (Eastern States to Kansas).....*lineatus* Loew
- Dorsum of thorax without lines (California).....
.....*inæqualis* new species
- 13. Only one pair of tarsi ornamented.....14
- More than one pair of tarsi modified or with unusual hairs or bristles25

14. Fore tarsi modified or with long hairs or bristles, other tarsi plain15
- Middle tarsi with long hairs or modified, other tarsi plain.....19
- Hind tarsi a little compressed and widened, third joint with a prominent spine at tip or with long hairs.....20
15. Second joint of fore tarsi dilated on underside of basal half or more; hypopygial lamellæ very long filaments, fringed with long hairs (California).....*caudatus* Van Duzee
- Second joint of fore tarsi not swollen below; hypopygial lamellæ short.....16
16. First two antennal joints yellow, third black (California).....*lævigatus* new species
- Antennæ wholly black, or first joint yellowish below.....17
17. Fore tarsi gradually, but considerably widened from base to near tip of second joint, then narrowing again to normal at tip (Utah).....*latitarsis* new species
- Fore tarsi not widened in the middle, if at all.....18
18. Fifth joint of fore tarsi a little widened, their pulvilli very large (Colorado).....*pulvillus* new species
- Second joint of fore tarsi with a spur near tip, and several small bristles on other joints, fifth joint not at all widened, their pulvilli large (California).....*breviventris* new species
19. Last two joints of middle tarsi widened, black (Idaho).....*montanus* new species
- Second joint of middle tarsi with three long hairs (California).....*tripilus* new species
20. First two joints of antennæ yellow, third sometimes blackish; third joint of hind tarsi fringed with long hair (Alaska).....*tertianus* Loew
- Antennæ yellow, tip of third joint brown; second joint of hind tarsi with one wavy hair, which is nearly as long as the joint (Indiana).....*aldrichi* new species
- Antennæ wholly black or brown.....21
21. Third joint of hind tarsi fringed with long hairs, fourth with several hairs which are shorter (Wyoming; Alberta).....*marcidus* Wheeler
- Third joint of hind tarsi with a prominent spine at tip.....22
22. Hypopygium with elongate, whitish lamellæ and two or three long, black, hair-like filaments.....23
- Hypopygial appendages wholly black.....24
23. Third joint of hind tarsi shorter than fourth; hypopygial lamellæ very large (Colorado; New Mexico).....*calcaratus* new species
- Third joint of hind tarsi as long or longer than fourth; hypopygial lamellæ very short (Victor, Colorado).....*setosus* new species

24. Fore coxæ almost wholly black, with black hair; hypopygium round, unusually conspicuous (Colorado).....*globulicauda* new species
- Fore coxæ almost wholly yellow with pale yellow hairs; hypopygium small, partly concealed (California).....*fasciventris* Van Duzee
25. All tarsi modified or with unusual hairs or bristles (California).....*pugil* Wheeler
- Apical joints of fore tarsi slightly widened; third joint of hind tarsi with a large thorn at tip; fore coxæ, all femora and tibiæ wholly yellow (California).....*fasciventris* Van Duzee

***Sympycnus aldrichi* Van Duzee, new species**

Male. Length, 2 mm. Face green, quite wide above, eyes touching below; palpi and proboscis yellow; antennæ (Fig. 40) yellow, third joint brown at tip, triangular, as wide as long, arista appears yellow in certain lights, brown in others; front dull brownish.

Dorsum of thorax green, dulled with gray pollen; lower part of thorax yellow; abdomen yellow, apical part and the hypopygium shining brownish black; hypopygial appendages very small.

Coxæ, femora, tibiæ and tarsi yellow, with very small hairs and bristles; apical joints of tarsi and tips of some of the other joints blackish; hind tarsi (Fig. 41) with long wavy hair at tip of second joint; joints of fore tarsi as 15-5-5-4-5; of middle ones as 26-12-11-6-6; joints of posterior pair as 18-13-14-9-8. Calypters, their cilia and the halteres yellow.

Wings grayish; third and fourth veins nearly straight and parallel beyond the cross vein, fourth ending in the apex of the wing; last section of fifth vein as 20, cross vein 11.

Described from one male taken by J. M. Aldrich, July 21, 1915, at La Fayette, Indiana. Type in the United States National Museum.

SYMPYCNUM ANGUSTIPENNIS Aldrich

Biologia, Diptera, Vol. i, 344, 1901. Mexico.

Male. Length, 2.1 mm. Face very narrow below; front purple in the middle; humeri and posterior margin of pleuræ yellow; abdomen with yellow on the sides near the base; hypopygium with yellow appendages; coxæ, femora and tibiæ yellow, tarsi slightly infuscated; first joint of middle tarsi as long as the remaining four taken together; pulvilli not enlarged; calypters, their cilia and the halteres yellow.

SYMPYCNUM AURIFACIES Van Duzee

Ohio Journal of Science, Vol. xxiii, 248, 1923. Alaska.

Male. Length, 1.7 mm. Face narrow, golden yellow; front blue or violet; first two antennal joints orange yellow, third black, twice

as long as wide; palpi small, yellowish; dorsum of thorax greenish brown, with a median green line and a poorly defined purple line each side of it; scutellum blue or violet, green on the edge; fore coxæ, all femora and tibiæ wholly yellow; fore coxæ with a few small yellow hairs; all tarsi black from tip of first joint, anterior ones one and a half times as long as tibia, first joint nearly as long as two following taken together; hind basitarsus hardly as long as the second joint; last section of fifth vein twice as long as cross vein; calypters, their cilia and the halteres yellow.

***Sympycnus breviventris* Van Duzee, new species**

Male. Length, 2 mm. Face very narrow; face and front grayish pollinose; palpi black with white pollen; antennæ (Fig. 3) black, seen from below the first joint is yellow, from above it appears wholly black; occiput green with white pollen; lateral and inferior orbital cilia white.

Thorax greenish; dorsum covered with brown pollen, without lines; acrostichal bristles few and very small; pleuræ white-pollinose, its posterior edge more or less yellow. Abdomen green, compressed; first segment yellow at base, second and third shining yellow on sides, leaving a median stripe on dorsum and the hind margin green; hairs of abdomen black; hypopygium (Fig. 5) blackish, very small, with a pair of yellow lamellæ; venter yellow, its last segment black with a pair of large black bristles.

Coxæ yellow, posterior ones sometimes a little blackened; anterior pair with minute yellow hairs; femora and tibiæ yellow; fore tibiæ without bristles, middle and hind ones with a few small bristles; tarsi yellow, more or less infuscated toward their tips; fore tarsi (Fig. 4) with a spur at tip of second joint and with several small bristles on other joints, sometimes these are apparently wanting, second joint and tip of first appear slightly thickened when viewed from the side; joints of fore tarsi as 23-9-8-6-6; of middle ones as 30-14-10-7-5; joints of posterior pair as 16-24-14-8-7. Calypters yellow with black tips and cilia; halteres yellow.

Wings a little grayish; third and fourth veins nearly straight and parallel beyond the cross vein, fourth ending in the apex of wing; last section of fifth vein as 39, cross vein as 15; anal angle of wing quite prominent.

Female. Face wider, color as in the male; abdomen tapering; joints of hind tarsi as 20-21-13-7-8; palpi yellow; venation as in the male.

Described from seven males and seven females, holotype, allotype and seven paratypes taken by the author, April 17, 1915, in San Diego County, California, on the edge of the

Colorado Desert; the other five paratypes were taken by J. M. Aldrich, May 7-9, 1906, at Pacific Grove, California.

Holotype and allotype in author's collection.

***Sympycnus calcaratus* Van Duzee, new species**

Male. Length, 3-3.5 mm. Face silvery white, narrow below; front green, dulled with gray pollen; palpi brown or yellowish brown; antennæ (Fig. 23) black, third joint longer than wide, triangular.

Thorax green, dulled with gray pollen; acrostichal bristles represented by several small hairs before the suture; pleuræ white-pollinose; abdomen green, base of segments bronze or coppery, its hairs mostly black; hypopygium (Fig. 25) black; outer lamellæ large, yellow; inner appendages a pair of small, rounded, black lamellæ, fringed with small hairs.

Coxæ and most of fore femora black; tips of coxæ, base and broad tips of fore femora, middle and hind femora, trochanters and tibiæ yellow, upper edge of posterior femora sometimes brown; tarsi blackened from tip of first joint; fore tibiæ without bristles, those of middle and hind tibiæ moderately strong; fore and middle tarsi plain, with tips of second, third and fourth joints a very little thickened; hind tarsi (Fig. 24) with third and fourth joints a little thickened, third with a stout, curved spur at tip, which is a little shorter than the joint; joints of fore tarsi as 23-10-6-5-6; of middle ones as 37-15-11-8-7; those of hind ones as 25-18-8-11-8. Calypters mostly brownish with yellow cilia; halteres yellow.

Wings grayish; third vein bent backward a little toward tip; last section of fourth vein bent near basal third, nearly parallel with third beyond this bend, its tip distinctly before apex of wing; last section of fifth vein as 50, cross vein as 15; anal angle prominent but broadly rounded; sixth vein distinct, not reaching wing margin.

Female. Face wide, silvery white, its sides nearly parallel; palpi yellow, white-pollinose; third antennal joint as long as wide; color of front, thorax, abdomen, legs and feet about as in the male; all tarsi slender, plain; joints of fore tarsi as 29-12-9-6-6; of middle ones as 40-17-13-8-6; those of posterior pair as 33-23-15-11-8; venation as in the male.

Described from seven males and two females; holotype, allotype and two paratypes were taken by the author June 9, 1915, at Colorado Springs, Colorado; four male paratypes were taken at Cloudcroft, New Mexico, June 18 and 19, 1902; the female paratype at the same place on June 21. Type in author's collection.

SYMPYCNUS CANADENSIS Van Duzee

Canadian Entomologist, Vol. xlix, 339, 1917. Ontario; New York.

Male. Length, 2 mm. Face rather wide, silvery white; antennæ black, third joint triangular, as long as wide; dorsum of thorax with a broad, median, violet stripe, more coppery on the sides and with large, velvety black spots above root of wings; second and third abdominal segments mostly yellow; hypopygium (Fig. 76) mostly concealed and with black lamellæ; coxæ and legs yellow; upper edge of hind femora on apical half, whole of hind tibiæ and tarsi and last two joints of fore and middle tarsi black; joints of fore tarsi as 16-7-6-4-5; of middle ones as 28-12-8-7-5; joints of posterior pair as 16-13-9-6-7; calypters, their cilia and the halteres yellow; last section of fifth vein as 27, cross vein as 9.

SYMPYCNUS CAUDATUS Van Duzee

Canadian Entomologist, Vol. xlix, 338, 1917. California.

Male. Length, 2-3 mm. First two antennal joints yellow, third black (Fig. 13) scarcely as long as wide; eyes contiguous; front and thorax bronze brown; abdomen a little yellow at base; hypopygium brown with very long, yellow outer appendages, which are fringed with long hairs; fore coxæ, all femora, tibiæ and tarsi yellow, sometimes the tarsi are slightly infuscated from tip of first joint, but usually almost wholly pale yellow; fore tarsi as in Figure 14; joints of fore tarsi as 20-7-6-6-6; of middle ones as 29-17-9-7-5; joints of posterior pair as 15-21-12-9-7; fore pulvilli enlarged; last section of fifth vein as 35, cross vein as 11; calypters, their cilia and the halteres yellow.

SYMPYCNUS CLAVATUS Van Duzee

Entomological News, Vol. xxiv, 271, 1913. New Mexico; Arizona; Colorado.

Male. Length, 2.5-3 mm. Eyes contiguous; first two antennal joints yellow (Fig. 7), third small, brown; thorax dark green, humeri yellowish; abdomen largely yellow, hairs and bristles on first segment yellow; hypopygium blackish; all coxæ, femora, tibiæ and fore (Fig. 8) and middle tarsi yellow, last two or three joints of these tarsi black; hind tibiæ enlarged toward tip with a sharply defined, wide, black tip; hind tarsi scarcely half as long as tibia with basal half of first joint white; joints of fore tarsi as 22-6-5-5-7; of middle ones as 35-16-11-7-7; of posterior pair as 26-16-14-10-8; last section of fifth vein as 20, cross vein as 15.

SYMPYCNUM CUPRINUS Wheeler

Proc. Calif. Acad. Sci., Ser. 3, Zool., Vol. ii, 50, 1899. Western States; Alaska.

Male. Length, 2.5-3 mm. Antennæ (Fig. 1) black; face and palpi covered with silvery white pollen; front dull black; thorax dark green with brown pollen; abdomen green, without yellow on sides; coxæ black with yellow tips, anterior pair with several silvery white hairs; basal half or more of fore femora and upper edge of hind femora blackish, remainder of femora yellow; tibiæ yellow, tips of hind ones black; fore and middle tarsi from tip of first joint and hind ones wholly black; all tarsi plain; fore pulvilli enlarged; joints of fore tarsi as 19-8-8-7-7; of middle ones as 31-14-8-8-5; of posterior pair as 23-20-12-7-7; calypters, their cilia and the halteres yellow, the cilia appearing dark in certain lights; last section of fifth vein as 32, cross vein as 12.

SYMPYCNUM FASCIVENTRIS Van Duzee

Canadian Entomologist, Vol. xlix, 337, 1917. California; Oregon; Colorado.

Male. Length, 3 mm. Eyes contiguous; lower orbital cilia black, short; antennæ (Fig. 31) black; thorax brown, nearly opaque, with gray pollen, bristles inserted in brown dots; abdomen green or coppery with apical margins of segments broadly covered with gray pollen; sometimes this portion of the segments is more green when anterior part is coppery; fore coxæ yellow with white hair; femora and tibiæ yellow; fore and middle tarsi almost wholly yellow; hind tarsi (Fig. 32) black from tip of first joint; fore pulvilli enlarged; joints of fore tarsi as 19-8-5-4-7; of middle ones as 40-15-10-7-6; joints of posterior tarsi as 25-18-8-10-6; last section of fifth vein as 41, cross vein as 12; fourth vein ending in apex of wing.

Sympycnum globulicauda Van Duzee, new species

Male. Length, 2.7 mm. Eyes touching below, leaving a small grayish white triangle above; palpi yellowish brown with white pollen; front dark green, dulled with gray pollen; antennæ (Fig. 28) black, third joint fully twice as long as wide.

Thorax green; dorsum with brownish pollen and three, broken, shining brownish stripes along the rows of bristles; acrostichal bristles few and very small; pleuræ more black, white-pollinose; abdomen green with bronze reflections, its hair black; hypopygium (Fig. 30) large and globular, its outer lamellæ brownish black, fringed with small hairs.

Coxæ black, anterior ones with a few black hairs, which are longer and more bristle-like at tip; fore femora blackened on basal

half, yellow at extreme base and on apical portion; trochanters, middle and hind femora, all tibiae and base of all tarsi yellow, all tarsi more or less blackened from tip of first joint; fore tibiae without bristles; middle tibiae with three rather large ones; hind tibiae with several smaller bristles; hind tarsi (Fig. 29) with three bristles on side of first joint, second with two bristles, third joint with several larger ones on the side and a strong one at tip, fourth joint thickened when seen from the side; fore and middle tarsi plain; pulvilli of all tarsi a little enlarged; joints of fore tarsi as 18-9-6-5-5; of middle ones as 25-11-14-11-10; joints of hind tarsi as 22-17-8-11-6. Calypters with black cilia; halteres yellow.

Wings grayish; last section of fourth vein bent near basal third, nearly parallel with third at tip, reaching the wing margin before the apex of wing; last section of fifth vein as 42, cross vein as 12; anal angle of wing rather prominent.

Described from one male, taken by the author June 9, 1915, at Colorado Springs, Colorado. Type in author's collection.

***Sympycnus inæqualis* Van Duzee, new species**

Male. Length, 2 mm. Head in the type shrunk so the eyes touch; palpi yellowish, almost yellowish brown; antennae (Fig. 11) with first two joints yellowish, third black, triangular, considerably longer than wide.

Thorax blue-green, dorsum with brown pollen; acrostichal bristles few but long; abdomen blackish green, base yellowish, especially first segment, its hairs mostly yellowish, first segment with long yellow bristles on sides; hypopygium (Fig. 12) shining black with moderately long, pointed lamellæ, which are yellow at base and have long hairs on sides and a hair at tip as long as the lemellæ.

Coxæ, femora and tibiae yellow, middle, hind and upper surfaces of hind femora brownish, hind tibiae more brown and slightly enlarged on apical half, but all these appear more yellow in certain lights; tarsi brown, fore and middle pairs appear yellow when seen in the right light; anterior and posterior tarsi plain, first three joints of middle tarsi plain (last two joints missing in type); joints of fore tarsi as 36-17-19-8-7; first three joints of middle tarsi as 42-19-13; of posterior ones as 19-32-13-11-7; pulvilli of fore tarsi not or scarcely enlarged. Calypters, their cilia and the halteres yellow.

Wings grayish; fourth vein ending in apex of wing; last section of fifth vein nearly straight, twice as long as cross vein; anal angle of wing quite prominent.

Female. Five females that probably are of this species were taken with the male but differ considerably from it: Face wide, gray-pollinose; antennae wholly black, third joint as long as wide; hind tibiae yellow, scarcely darker at tip; hind femora black on apical fourth; first joint of hind tarsi nearly as long as second. They agree

with the male in having the last section of fifth vein straight and twice as long as cross vein; third and fourth veins straight and parallel, fourth ending in apex of wing; all coxæ yellow, and posterior margin of pleuræ a little yellowish below. Dorsum of thorax in females shining brownish with quite distinct lines, in male bluish without lines.

Described from one male and five females, taken by the author at Konocti Bay, Clear Lake, Lake County, California, May 10, 1926. Type in the author's collection.

Sympycnus lævigatus Van Duzee, new species

Male. Length, 3 mm. Face very narrow, eyes touching in middle of face (head shrunken) leaving a long, white triangle above and below; palpi rather large, yellow; front and occiput blackish green, white-pollinose; antennæ (Fig. 9) with first two joints yellow, third joint blackish, a little yellowish at base, very small, rounded; lower orbital cilia white.

Thorax green, dulled with white pollen, viewed obliquely the pollen on the middle of the dorsum is more brownish, forming three distinct brown lines, the middle one reaching the scutellum; humeri below and the posterior edge of pleuræ yellow; acrostichal bristles not distinguishable in type; dorsum of abdomen shining black, second and third segments yellowish brown, lighter in color at base of second, becoming more black on hind margin of third; hairs of abdomen black, the long ones on lower edge of first and second segments yellow; venter yellow; hypopygium shining black, its outer lamellæ short, narrow, yellow, inner appendages black.

Coxæ, femora and tibiæ yellow; hind femora slightly brown above on apical half; fore coxæ with small white hairs on anterior surface and yellow bristles at tip; fore and middle tarsi yellow with last joint black, seen in certain lights some of the other joints appear infuscated; hind tarsi black from tip of first joint; fore tarsi (Fig. 10) with long hair and with the joints a little thickened, their pulvilli enlarged; fore tarsi with the joints as 22-9-7-5-7, pulvilli as 4; joints of middle tarsi as 36-17-14-8-6; of hind ones as 23-25-16-11-10. Calypters yellow with black tip and yellow cilia; halteres yellow.

Wings grayish, darker in front; third vein a little bent backward at tip; last section of fourth vein without a bend, nearly parallel with third, ending in apex of wing; last section of fifth vein as 24, cross vein as 15; wings narrowed at base.

Female. Face wide, black with gray pollen; palpi brownish; antennæ as in male; no acrostichal bristles; abdomen metallic coppery black with large yellow spots on sides of second and third segments and small ones on sides of first; legs and feet colored as in the male; joints of posterior tarsi as 28-30-20-11-10; wings more

tinged with brown; venation as in the male; last section of fifth vein as 22, cross vein as 25; wings less narrowed at base.

Described from one pair, taken by the author, May 7 and 8, 1915, at Berkeley, California. Types in the author's collection.

Sympycnus latitarsis Van Duzee, new species

Male. Length, 2 mm. Face, front, occiput and palpi black; face very narrow with sides parallel below the middle and a little grayish brown pollen; antennæ (Fig. 15) black, first joint rather long, third small, somewhat triangular, as long as wide; lower posterior orbits with a few small, white cilia.

Thorax green; dorsum with a little brown pollen and indistinct, broken, brown lines along the rows of bristles; acrostichal bristles few and small; abdomen greenish black, second and third segments largely yellow on the sides and venter; hairs of abdomen black; hypopygium large, shining black with short pale hairs. (It is broken off, but still adheres to the abdomen in the only specimen I have.)

Fore coxæ yellowish, almost brown; middle and hind ones black; femora and tibiæ dark yellow, fore femora somewhat blackened at base; all tarsi yellow at base, blackened from the tip of first joint; fore tarsi (Figs. 16 and 17) flattened, gradually widened from base to near the tip of second joint, then becoming smaller, last joint nearly normal; first joint with a long bristle at tip that is a little shorter than second joint; second joint with three large bristles that do not show when viewed from above the broad upper surface; joints of fore tarsi as 20-11-7-5-6; of middle ones as 27-14-10-6-6; joints of posterior pair as 18-20-13-9-7. Halteres yellow.

Wings grayish, slightly darker in front; third and last section of fourth vein nearly straight and parallel, fourth ending in the apex of the wing; last section of fifth vein as 35, cross vein as 12.

Described from one male, taken by the author June 7, 1915, at Wendover, Utah. Type in the author's collection.

SYMPYCNUS LINEATUS Loew

Neue Beitr., Vol. viii, 67, 1861; Mon. N. Am. Diptera, Vol. ii, 189, 1864. Eastern States to Kansas.

Length, 2-3 mm. Antennæ (Fig. 2) more or less yellow or yellowish; dorsum of thorax grayish brown with darker lines; abdomen brownish gray to yellowish brown; hypopygium black with narrow, straight, rather long, brown appendages projecting downward; coxæ, legs and feet yellowish; joints of fore tarsi as 22-9-6-5-5; of middle ones as 33-14-11-6-5; of posterior pair as 17-22-15-14-7; third and fourth veins nearly straight and parallel, fourth ending in apex of wing; last section of fifth vein as 22, cross vein as 10.

SYMPYCNUM MARCIDUS Wheeler

Proc. Calif. Acad. Sci., Ser. 3, Zoöl., Vol. ii, 48, 1899. Wyoming; Alberta.

Male. Length, 2.5-3 mm. Antennæ (Fig. 33) small, black, third joint as long as wide; face very narrow, white; palpi minute, yellow; thorax dull green; abdomen green with coppery reflections; venter yellow; hypopygium shining black with a rather long, straight, yellowish appendage extending downward; coxæ yellow, middle and hind ones infuscated on outer surface, fore coxæ with white hairs; femora and tibiæ yellow; fore tarsi (Fig. 34) shorter than their tibiæ; fore pulvilli white, enlarged; hind tarsi (Figs. 35, 36) blackened from tip of first joint; joints of fore tarsi as 13-6-5-4-6; of middle ones as 38-17-13-8-7; of posterior pair as 27-20-14-8-7; fourth vein ending in apex of wing; last section of fifth vein as 43, cross vein as 10; calypters and halteres yellow, cilia of former white; hind tibiæ and tips of hind femora sometimes brown.

Sympycnum montanus Van Duzee, new species

Male. Length, 2.2 mm. Eyes contiguous below (perhaps from the head being shrunken), leaving a gray triangle above; front and occiput dull blackish; palpi yellow; antennæ black, third joint small, triangular, arista dorsal.

Dorsum of thorax green with brown pollen; pleuræ white-pollinose, posterior edge of pleuræ and spot at root of wing yellowish; a scarcely visible depressed area before the scutellum; abdomen shining black with a reddish yellow tinge on basal half; venter yellow at base; hairs on dorsum of abdomen black, on sides at base yellowish; hypopygium black, its small outer lamellæ black with several long hairs at tip; inner appendages more testaceous.

Coxæ, femora and tibiæ yellow; fore coxæ with a few yellow hairs; fore tarsi yellow at base, blackened from second joint; middle tarsi (Fig. 42) yellow with last two joints black and widened; hind tarsi black from tip of first joint; joints of fore tarsi as 17-7-5-4-6; their pulvilli enlarged; joints of middle tarsi as 28-13-11-5-6; of posterior pair as 17-17-12-8-7. Calypters, their cilia and the halteres yellow.

Wings grayish, narrowed a little at base; last section of fourth vein straight, nearly parallel with third, ending in the apex of the wing; last section of fifth vein as 23, cross vein as 15.

Described from one male taken by J. M. Aldrich, June 4, 1910, on Mount Moscow, Idaho. Type in the United States National Museum.